

Claims:-

1. A method for the production of a pseudo stable reference control for the reliable generation of composite video signals from a broadcast data receiver (BDR), said BDR receiving video, audio and/or auxiliary data from a broadcaster, said BDR having storage means in which to store data and characterised in that said method includes the steps of said BDR producing a pseudo stable reference by extracting/deriving one or more values from frequency information embedded in incoming broadcast data and using said pseudo stable reference to control the frequency of a VCXO in the BDR, thereby allowing accurate colour sub-carrier frequency generation for the generation of a video output via the BDR, or a VCR communicating with said BDR.
2. A method according to claim 1 characterised in that the derived pseudo stable reference is stored in said storage means and updated at pre-determined time intervals.
3. A method according to claim 1 characterised in that the storage means is in the form of a hard disk drive.
4. A method according to claim 1 characterised in that the BDR is provided with micro-processing means which can extract the frequency information embedded in the incoming data streams and produce a suitable PWM signal to control the frequency of the VCXO.
5. A method according to claim 1 characterised in that the one or more values are average values of stable frequency references embedded in incoming data.

6. A method according to claim 5 characterised in that the one or more values are average PWM readings.
7. A method according to claim 6 characterised in that the average PWM readings are extracted/recorded during the phase locked loop of software routine of the micro-processing means.
8. A method according to claim 7 characterised in that the phase locked loop software compares a 90KHz stable clock reference from the incoming data stream to the local frequency of the VCXO.
9. A method according to claim 5 characterised in that the average stable frequency reference values include the mean or median average readings thereof.
10. A method according to claim 6 characterised in that the pseudo stable reference is the average of the current PWM value, the most recent PWM value stored in memory in the BDR and the oldest PWM value stored in memory in the BDR.
11. A method according to claim 1 characterised in that timer means are provided in the BDR to allow a pre-determined time period to pass before the micro-processing means extracts/records said one or more values from said incoming data stream.
12. A method according to claim 11 characterised in that the timer means is a real time clock embedded in the incoming data.

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13. A method according to claim 11 characterised in that the timer means is information derived from DVB service information.
14. A method according to claim 1 characterised in that said one or more values are derived by locking the frequency of the VCXO in the BDR to an off air data stream and using the frequency information embedded in said off air data stream as the pseudo stable reference to control the frequency of the VCXO.
15. A method according to claim 14 characterised in that if there is a choice of digital or analogue broadcast signals from which the one or more values can be derived therefrom, the BDR derives said one or more values from an analogue data signal.
16. A method according to claim 14 characterised in that locking of the frequency of the VCXO within the BDR to an off air data stream is undertaken during or at the same time as playback of data stored in the BDR and/or VCR.
17. A method according to claim 14 characterised in that the BDR records and stores one or more extracted stable frequency reference values from the off air data stream at pre-determined time intervals, so that if locking of the BDR to the off air data stream is lost during playback of stored data from the BDR and/or VCR, the BDR uses the last recorded stable frequency reference value to continue playback of the stored data.
18. A method according to claim 17 characterised in that once locking of the BDR to the off air data stream is resumed, the last recorded stable frequency reference value

is discarded and the stable frequency value taken from the off air data stream is used.

19. A method according to claim 14 characterised in that the BDR is provided with means to watch and record different television channels simultaneously and when the BDR is recording data from one or more channels, the BDR switches the front end of the record channel(s) off, extracts the stable reference value(s) from the data stream of the channel being watched and uses the stable reference value to lock the watch and record channels together.
20. A method according to claim 19 characterised in that one of the watch and the record channels is an analogue channel, and the stable frequency value from this channel is used to lock the watch and record channels together.
21. A method according to claim 19 characterised in that the record channel(s) include(s) any or any combination of a channel from which data is being recorded onto a VCR or BDR, a channel being used to play back video data from the BDR, or a recording mode in which digital data is being copied from the BDR onto a VCR.
22. A broadcast data receiver, said BDR receiving video, audio and/or auxiliary data from a broadcaster, said BDR having storage means in which to store data and characterised in that the BDR is provided with means for producing a pseudo stable reference by deriving/extracting one or more values from frequency information embedded in incoming data, and said pseudo stable reference is used to control the frequency of a VCXO in the BDR, thereby allowing the generation of an accurate sub-colour

frequency for the playback of stored data from the BDR and/or a VCR.

23. A broadcast data receiver according to claim 22 characterised in that said pseudo stable reference is used when the BDR and/or VCR is deriving video data from said storage means.
24. A broadcast data receiver according to claim 22 characterised in that the one or more values are average values of stable frequency information embedded in incoming data.
25. A broadcast data receiver according to claim 22 characterised in that the one or more values are provided by locking the reference from the VCXO within the BDR to an off air data stream, and one or more stable reference values embedded in said off air data stream are used to generate a pseudo stable reference control.